



THE CONFLUENCE

Newsletter of the Washington—British Columbia Chapter of the American Fisheries Society

Spring 2020 Issue

Inside this Issue

President's Report	2
Virtual AFS Conference for Canceled Talks	3
WA-BC Chapter ExCom Opening—VP	6
C. Jeff Cederholm Scholarship Recipients	7
The Book Nook	8
Chapter Info	12

Although the Western Division AGM was canceled due to COVID-19, WA-BC members were still able to present at Virtual AFS Conference for Canceled Talks (<https://fisheries.org/events-page/virtual-spring-conference/>). We are now beginning planning for our 2021 conference! Watch for meeting updates, including our business meeting and important deadlines at <https://wa-bc.fisheries.org/>.

We hope you find this issue of *The Confluence* interesting and informative, with the President's Message, a call for a new Executive Committee member, C. Jeff Cederholm scholarship recipients, a book review, and more! Enjoy.



AFS members organized a virtual conference to provide an opportunity for those who prepared presentations for events that were canceled due to COVID-19. This event was free, but viewers were encouraged to make a donation to the [Hutton Program](#).

WA-BC Chapter Executive



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President's Report

Dear WA-BC Chapter Members,

We are certainly in interesting times! It has been a bit of a rough go for the last month and a half for many of us, but I hope everyone has been able to find something to make your days at least a little easier and more joyful. I was flooded with a lot more emotions than I expected with the sudden halt of my busy life. In particular, I was saddened that we had to cancel the Western Division meeting in Vancouver. Many volunteers had been working very hard for at least a year and had a lot of great things planned, and I was very much looking forward to reconnecting with those of you I've come to know through these meetings the last few years. I know it was the right decision to protect our AFS family (and truthfully we would likely have been told to cancel a couple weeks later anyway), but it was a sad thing for me nonetheless.

But, all is not lost, merely delayed! We are planning to carry forward as much of the planning as possible into next year's Chapter meeting, including the theme and several symposia. A big THANK YOU to the organizations who agreed to roll their Sponsorship forward to next year – this gives us a very helpful head-start! I also hope some of you have taken some time to check out the Virtual Meetings hosted by AFS (<https://fisheries.org/events-page/virtual-spring-conference/>). We had two days earmarked for presentations from many professionals who were intending to present at the WD2020 meeting. I'm so grateful to the volunteers who pulled these sessions together in such a short time. In the first three session, almost 800 people tuned in! While there have been hiccups along the way as everyone learns to present with recorded voice-overs to their PowerPoint presentations and how to operate the many kinds of virtual communication software, all in all I think we can mark this event as a success and carry the lessons forward to make our future Chapter meetings more accessible. Nothing can quite replace a face-to-face meeting with colleagues (or loved ones!), but it's time to start incorporating more "virtual reality" into our meetings for those who need or prefer it.

Speaking of virtual meetings, our Executive Team has begun to make plans for a virtual business meeting in 2020. We currently anticipate this will occur in late June, so please watch for updates through the listserve and on our website. We'll be updating on our Chapter's business activities and officially recognizing some very hard-working individuals! We've had to take another look at the work plan for this year given that many aspects of it relied on our ability to meet with people. But as my colleagues on the ExCom reminded me, I CAN carry this work forward into the next year while I am Past President, so I feel less pressure to find all the answers in the next couple months. *phew* One thing is for sure – I definitely have more time now to work on our Chapter Procedures Manual and fill out my AFS Fisheries Professional Certification application!

What's been helping you get through these tough times? For me, I've kept my spirits up by delving into the world of K-POP and trying out dyeing my hair purple. 'Cause why not? :) Drop me a note at btjenewein@gmail.com ; I'd love to hear your stories.

Take care, everyone!

Brittany Jenewein
President, WA-BC Chapter of AFS

VIRTUAL AFS CONFERENCE FOR CANCELED TALKS



COVID-19 has caused enormous disruptions to everyday life. Among the many personal and professional challenges we face, one has been the cancellation of several AFS chapter and division meetings, including our Vancouver, BC meeting. Fisheries scientists, managers, and students have constructed important talks to discuss their work with limited or no venue to disseminate the information. Many professionals and students have shifted their workspaces to home. Thus, an online forum for information exchange between presenters and online attendees provided AFS members whose meetings have been canceled a virtual platform and

audience to present talks. The first sessions began on April 16, occurring twice a week on Tuesdays and Thursdays. The virtual conference had two amazing plenary speakers—Donald Orth from Virginia Tech started off the conference discussing the principles and practices of online teaching and challenged everyone to learn and grow during these trying times. Natasha Wingerter from University of Idaho gave her plenary speech during the Western Division session, focusing on a design-based research tool called the “Science Selfie” which aims to increase science identity, science self-efficacy, and intention to pursue fisheries science.

The Western Division and WA-BC Chapter of AFS hosted two joint sessions with a total of 20 presentations! If you would like to view any of these presentations, simply login to the [AFS website](#), navigate to the ‘Meetings’ tab on the menu, and select “Virtual Spring Conference”. We would like to highlight one Western Division and one WA-BC Chapter member in our newsletter—Natasha Wingerter and Caroline Walls. If you missed their presentations, please view their information on the next few pages.

This event would not be possible without the help of sponsors. We’ve included their logos and level of support on the following pages.



Gold Level



Gold Level



Gold Level

Continued on Page 4

VIRTUAL AFS CONFERENCE FOR CANCELED TALKS



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**Natasha Wingerter—
University of Idaho |
The 'Science Selfie':
How to reframe your
elevator speech to
address social
stereotypes**

Abstract:

As fisheries scientists we are encouraged to expand the impact of our work by participating in public and educational outreach. Beyond the benefits of stakeholder engagement, authentic learning experiences with scientists have the potential to have lasting impacts on the future face of fisheries by building a student’s science identity which influences his or her persistence within STEM fields. However, fisheries scientists rarely receive training in conducting outreach and seldom have training in performing outreach with underrepresented populations. In order to address this gap, we sought to create a tool which addresses three student self-identified barriers to STEM, including a fixed mindset, fixed theory of interest, and demographic threats. We used design-based research to create a tool called the “Science Selfie”. The “Science Selfie” addresses social stereotypes of who can do science by reframing a fisheries scientist’s elevator speech, sharing his or her pathway to fisheries, and creating avenues for personal relevance. We demonstrate how the “Science Selfie” can be used to dismantle student self-identified barriers to increase science identity, science self-efficacy, and intention to pursue fisheries science.



Silver Level



Silver Level



Silver Level



Silver Level

Continued on Page 5

VIRTUAL AFS CONFERENCE FOR CANCELED TALKS

**Caroline Walls—
Western
Washington
University |
Juvenile salmonid
response to large
woody debris
placement: an
analysis of long-
term monitoring
data**



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ABOUT ME

CAROLINE J. WALLS

I am a graduate student at Western Washington University, pursuing M.S. Freshwater Ecology. I am a member of the AFS WA-BC Chapter Executive Committee as student sub-unit representative.

I have worked with juvenile salmon throughout western Washington and Southcentral Alaska, with the National Park Service, US Fish and Wildlife, and WA Dep't of Natural Resources. I am currently based out of Port Angeles, WA, just outside of Olympic National Park.

Abstract:

The decline of Pacific salmon (*Oncorhynchus* spp.) is well-documented, and the widespread degradation of freshwater juvenile rearing habitat is a primary contributor. In recent decades, river restoration has become a multi-million dollar a year industry, but salmon populations have not improved on a proportional scale. One of the most common forms of restoration involves the placement of large woody debris (LWD). These projects are typically implemented with the assumption that they will improve freshwater habitat, and an increase in salmon abundance will naturally follow. We synthesized data from 16 LWD placement projects throughout Washington State, dating back to 2004. These projects followed a multiple Before-After, Control-Impact study design, with paired "control" and "treatment" study reaches. Each study reach was monitored 1-4 years before restoration and 3-10 years after restoration, through physical habitat profiles and snorkel surveys. We used linear mixed effects models to evaluate the outcomes of these restoration projects, in terms of both habitat and fish response. As expected, habitat features responded positively, with increases in average residual pool depth, pool area, and habitat complexity. However, fish response was much more complicated. We looked for changes in both density and biomass of juvenile coho salmon (*O. kisutch*), Chinook salmon (*O. tshawytscha*) and steelhead (*O. mykiss*). Each species responded to LWD placement differently, with varying implications for restoration success. In most cases, however, density-dependent factors and variations in regional climate impacted fish response with equal or greater magnitude than did LWD placement. Our results suggest that LWD placement can be a useful tool for salmon restoration, but current levels of restoration will likely be insufficient to improve salmon populations.



Bronze Level



Bronze Level



Bronze Level



Bronze Level

WA-BC CHAPTER EXCOM OPENING

The WA-BC Chapter of AFS is accepting nominations for **Vice President** for our Executive Committee election this year. Ever think about developing and refining your leadership skills? Or maybe just giving a little back to an organization that does so much for students, professional development, and natural resource conservation? Then now is a great time to get more involved and help the Chapter chart the course into the future. It doesn't matter if you're still in school, a young professional just getting started in your career, nearing (or already in) retirement, or somewhere in between – the Executive Committee needs members at all stages in their career. Remember, **you can nominate yourself** or we can contact someone you think would be a good nominee.

This year we are accepting nominations for Vice-President (VP). All candidates must be AFS members in good standing.

The Vice-President is a four-year term serving the first year as VP, the second year as President-Elect, the third year as President, and the fourth year as Past-President.

The election will be run through June 15, and terms will officially start after the AFS Parent Society meeting in Columbus, Ohio. Additional information associated with the official duties of the position can be found in our bylaws (<https://wa-bc.fisheries.org/about-us/bylaws/>). Feel free to contact current or recent officers to find out about their experience leading the Chapter.

Nominations are due by 5:00 pm PST on Friday, May 15, 2020. Please email your nominations to Gabriel Temple, Past-President (gabriel.temple.wabc.afs@gmail.com). Nominations should contain a brief written statement that includes the position you are nominating for, your background, why you want to serve on the Executive Committee, and what vision you have for the Chapter. These statements will be made available to the Chapter membership for use in voting. Please also include a photograph of yourself that can be used for the election. Contact Gabriel Temple, Nominating Committee Chair, at the above email address if you have any questions.

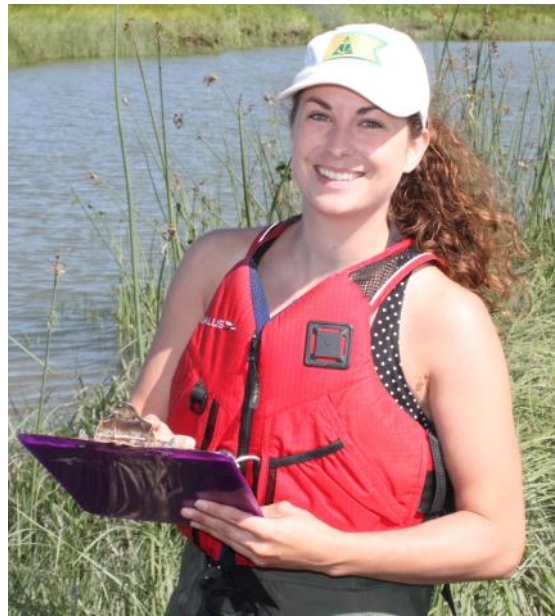
AFS AMERICAN FISHERIES SOCIETY



C. JEFF CEDERHOLM SCHOLARSHIP RECIPIENTS

The WA-BC awards committee would like to recognize the winners of the C. Jeff Cederholm Scholarship winners for 2020. Three \$1,000 scholarships were awarded this year. One for an undergraduate student, one Masters student, and one PhD candidate. The undergraduate scholarship was awarded to Brandon Nam at Simon Fraser University. Brandon's Honor Thesis is focused on ways juvenile Coho Salmon utilize a mosaic of rearing habitats in the Koeye River estuary in British Columbia. Luke Warkentin, also attending Simon Fraser University, was awarded the Masters student scholarship. Luke is investigating how climate change is altering physical stream characteristics and influencing Chinook salmon productivity in the Nicola River watershed in interior British Columbia. Finally, we awarded the PhD scholarship to Lia Chalifour at the University of British Columbia. Lia's research is focused on how habitat in the lower Fraser River and estuary support wild salmon and nearshore fish communities and to determine optimal management strategies that will facilitate salmon recovery in this system. We applaud the excellent work being conducted by the 2020 award recipients.

C. Jeff Cederholm Scholarship Recipients



Pictured above: Brandon Nam (top left), Luke Warkentin (bottom left), and Lia Chalifour (top right).

The Book Nook

Who hears the fishes when they cry? A review of "Salmon—A fish, the Earth, and the History of a Common Fate" by Mark Kurlansky

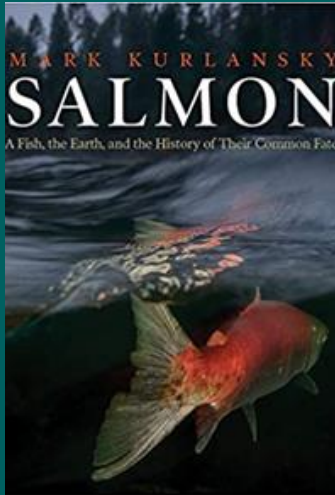
Review by Orly Johnson

Short summary –Mark Kurlansky’s book *“Salmon-A Fish, the Earth, and the History of Their Common Fate”* is one of the best books I’ve read in a long time. Kurlansky is an excellent story teller, and while the book is long, it is a real page turner. The quality of the historical and present-day prints/photos is just breathtaking, and worth the very reasonable price of the book. The sweep of the book is immense, but the accounts of salmon evolution, biology, and migrations are excellently presented. It is also a disquieting read and heart breaking in many ways, as he documents the past destruction of salmon in Europe, eastern North America, and now in the Pacific – including the attempted destruction of native peoples and their culture. He also makes clear that unless major change occurs, salmon are on a road to extinction. While there are some typos and some other points to quibble with, this isn’t meant to be a scientific tome; it is a cry for action and he does that well. Whether Kurlansky is writing of the heroic glories of the species or the dark side of salmon-human interactions – the book is worth the read. If it’s not the best book on salmon you’ve read, it’ll be close.

Full Review—*Salmon -A Fish, the Earth, and the History of Their Common Fate* by Mark Kurlansky is excellently written and the publisher Patagonia should be congratulated. They certainly have given him free reign with the physical quality, especially the magnificent photographs. Mark is a very prolific best-selling author of over 39 books including *The Big Oyster* and *Cod a Biography of the Fish That Changed the World*—a book that I learn something new each time I reread it. It was an international bestseller, winner of the 1999 James Beard Award, and was translated into more than 15 languages.

Salmon will also find an equally lofty place well beyond the fishery literature. Mark is not only a masterful storyteller, but he also does his homework. While the book is massive, reads as an adventure, and dives into the evolution and biology of salmon, the real meat is in chapters on human-salmon interactions. It is written to enchant and motivate its readers about what he rightly considers an iconic creature on the verge extinction. He says it is the “most important piece of environmental writing in his long and award-winning career.” I believe him.

Continued on Page 9



Salmon—A fish, the Earth, and the History of a Common Fate



Photo Part I. Sockeye Salmon in spawning coloration, Adams River BC. Photo by Eiko Jones



Mark Kurlansky, Author

The Book Nook

OK, that said, as a heads-up to salmon biologists, you may have some major (and minor) issues with the book – this is not a scientific tome like Tom Quinn's (*The Behavior and Ecology of Pacific Salmon and Trout 2nd Edition*) or Groot and Margolis' (*Pacific Salmon Life Histories*). It is an action book, more like "King of Fish: The Thousand-Year Run of Salmon" by David Montgomery, which like "Salmon" goes from awe inspiring to heartbreaking and beyond.

One problem with the book from a biologist's point of view is that Kurlansky does not reference the information he presents. There are endnotes, but they aren't noted in the body of the book—they are listed by page at the end. Also, there is not a single graph in the main section which would help to explain difficult concepts or visually present large datasets. However, this may not be so important to the average reader and none of these errors overly detract from the book. As noted, it is not intended to be a scientific tome; it is a call to arms.

However, if you crave something more scientific, go to the Appendix (pages 397-427) at the end of the book. The Appendix is a report by Jim Lichatowich and Nick Gayeski, two very respected biologists (Jim is the author of "Salmon Without Rivers" and Gayeski is a senior fish biologist with Wild Fish Conservancy) that contains the graphs and all the science you might want to backup and even go beyond Kurlansky's chapters. It also has well numbered references...thank Mark Kurlansky for including this in the book.

The structure of the book begins with a timeline divided into four parts with a **Prologue** and **Epilogue**. The four parts are "**The Hero**", "**A Human Problem**", "**The Problem with Solutions**", and "**Dangerous Future**" and each part has several chapters. There is also an excellent **Appendix** at the end. While he paints a bleak future for salmon in the last chapter, he does provide a path forward that might allow them to flourish again.

The "**Prologue – A Tale of Two Fisheries**" sets the tone and describes the lives of two Alaskan fishers, one Curtis "Ole" Olson, a setnetter in Bristol Bay, and the other Thea Thomas, a gillnetter on a bowpicker in PWS. This may just be one of the best sections in any book I've read on fishing. The two fishers could not be more different, but they, like the species they fish, are alike in their spirt, toughness, and resiliency under harsh conditions. And thankfully, Ms. Thomas' first name is not Lena.

Part 1 - The Hero has two chapters and begins in prehistory as salmon begin what he calls a "heroic" journey from river to sea and back. He then follows their journey over the millennia to present day with chapters focusing on what went wrong and what needs to be done in the future. **Chapter 1 "A Family Matter"** describes how salmon are scientifically named (i.e. Carl Linnaeus), how and where they evolved, and what is the key to their success. He has a whole section on the distinctions between trout and salmon, concluding that it is artificial characterization and confusing. **Chapter 2 -A Hero's Life** is the story of salmonid life history and while the author notes that anthropomorphism is not welcome in science, it is almost impossible not to see the salmon's migration to the sea and back as "heroic". There is also a large section on what smoltification is and its importance to colonizing new areas. Maybe the best part of Hero's Life is the 2-page photograph of the BC Spirit Bear, a Kermode; a black bear that can be white in the Great Rain Forest of BC.

Continued on Page 10

The Book Nook

Part 2 – “A Human Problem - Interaction of Humans and Salmon” is an overview of human exploitation of salmon, He starts in Europe and moves to the Pacific Ocean. It is a sad story of human ignorance, racism, and greed. It begins with **Chapter 3 “The Original Salmon”** which is about the history of humans and Atlantic salmon in Europe. While it is a tragedy, the history is fascinating and the historical illustrations are stunning. In particular, there is a print of St. Peter and a fisherman, and another is a photo of fish mongers selling Atlantic salmon in France. **Chapter 4 “Old Ways in the New Land”** is about how native people in North America fished and managed salmon; and how when Europeans arrived to North America, they continued their tragic destruction of salmon runs. There are also little known but fascinating accounts of attempts to introduce Pacific Salmon to the East Coast of Canada and the US from 1903 to the 1960s. All were failures. **Chapter 5, A Golden Fish Arrives in the East**, is very short (7 pages) and on the history of salmon culture in Asia, mainly Japan and Russia. The term “Golden Fish” refers to a wonderful story by Alexander Pushkin in “A tale of a Fisherman and a Fish” (an illustration from the book is on page 140). The chapter presents archeological findings of 20-foot-long split cedar canoes in Japan and suggests the first salmon fishers in the world were the Jomon (Ainu) people. Jomon lived and fished in Japan, and also fished the Kurl Island and in Kamchatka (page 142). The fish were so important that they are part of the basic Ainu language. For example, salmon is “shipi”, which means “stable food”.

He also describes the origin of the ‘difficult-to-pronounce’ scientific species name for Chinook; “*tshawytscha*” coming from the Itelmen word for fish “chavicho.” He does not discuss the naming of other salmon species, and it would be nice to at least mention Chum Salmon’s scientific species name of *keta*. which derives from the Nanai (Evenki) people who live along the Amur river; it means “fish” in their language.

Chapter 6 in Part 2, **“When it Was Working”**, is the account of how native peoples managed salmon and protected the resource in the Pacific Northwest, primarily in the Fraser and Columbia Rivers where fishing began about 8,000 years ago. The next two chapters focus on how salmon and native culture were overwhelmed by the United States. **Chapter 7 “The White Man Comes”** describes how salmon runs were overfished, habitats were destroyed, and natives were slain, which includes the continued attempt to destroy their historical culture that protected salmon. A sad account, but very much worth the read. **Chapter 8 “Nowhere to Run”** continues the destruction of salmon runs and habitat mainly by hydropower and other dams, and it ends with the destruction of Celio Falls in Oregon. The photos of the pre- and post-dam falls are excellent, like many of the shots throughout the book of natives fishing at the falls.

Part 3 – The Problems with Solutions -- The section does not refer to solutions as solving problems, but that there are/were serious problems with the solutions proposed to the problems of restoring salmon runs. These chapters (9, 10,11) are probably most familiar to WA-BC members. Beginning with **Chapter 9 “Why Not Make More”**, Kurlansky provides a history of hatchery production from Europe to Alaska, detailing the successes and failure of various programs. It begins with a great quote from John Muir – “The world we are told, was made especially for man – a presumption not supported by all the facts.” **Chapter 10 “Sea Cattle”** is about the history of ocean ranching and net pen culture of salmon. Again, the photos are amazing (one of wrasses eating sealice off of penned Atlantic salmon is amazing), but the tale (as in the previous chapter) only emphasizes the remarkable insight of John Muir.

Continued on Page 11

The Book Nook

This section ends with **Chapter 11 "The Release"** on the rise of recreational fishing and production of fish for this industry, especially fly fishing's "catch and release" programs. The chapter is a fascinating read, but he also documents that the human hope for "catch and release" will benefit the species is not entirely supported by the facts.

Part Four – The Dangerous Future". The final chapters and an Epilogue. In these three chapters, the author reports on the state of salmon around the world with "**Elegy for the Atlantic**", "**The Ballad of the Pacific**", "**The Golden Fish Departs**" and finishing with the **Epilogue "It Concerns us."** These chapter paint a bleak picture of the future but does provide some hope if we can change our present trajectory focus on ecosystem healthy and make real efforts to preserve these wonderful species.

Appendix: "Wild Pacific Salmon, Myths, False Assumptions, and a Failed Management Paradigm" by Jim Lichatowish and Nick Gayeski. If you want a more technical discussion of the issues Kurlansky addresses with graphs, footnotes and references, check the Appendix. The authors are two well respected biologists and excellent authors themselves (Jim was once head of OFWS and is the author of "Salmon without Rivers"). The section is densely written in smaller print than the rest of the book, but does have spawner-recruit curve and is solidly footnoted. Kurlansky is to be complimented for including this report in his book.

In conclusion, this is a well written book and while Mark Kurlansky is a prolific author, I think he is correct in saying this is the "most important piece of environmental writing in his long and award-winning career. Not a "feel-good" read, but I think a "must read" for not just for every aquatic or fishery biologist, but for every citizen of our continent. It is a call to arms, which I hope is heeded.

As Henry David Thoreau wrote: "Who hears the fishes when they cry? Maybe we need to go down to the river bank and try to listen."



Left) Page 440 1906 Young fellow with large Chinook on the docks at Astoria, Oregon. Brück and Sohn Kunstverlag//Alomy Stock Photo. **Right)** A bear lines up a coho in the Great Bear Rainforest, British Columbia. Photo Credit: Ian McAllister.



**Washington-British Columbia Chapter
of the American Fisheries Society**

Chapter Information

Website: <http://wa-bc.fisheries.org/>

Facebook: <https://www.facebook.com/wabcafs>

Twitter: <https://twitter.com/wabcafs>

Want to join AFS and the WA-BC Chapter? <http://membership.fisheries.org/>

Questions? Suggestions? Contact:

President Brittany Jenewein at btjenewein@gmail.com

Want to write an article or submit any type of fisheries-relevant information to this newsletter? Contact:

Timothy Taylor at timothytaylor.afs@gmail.com

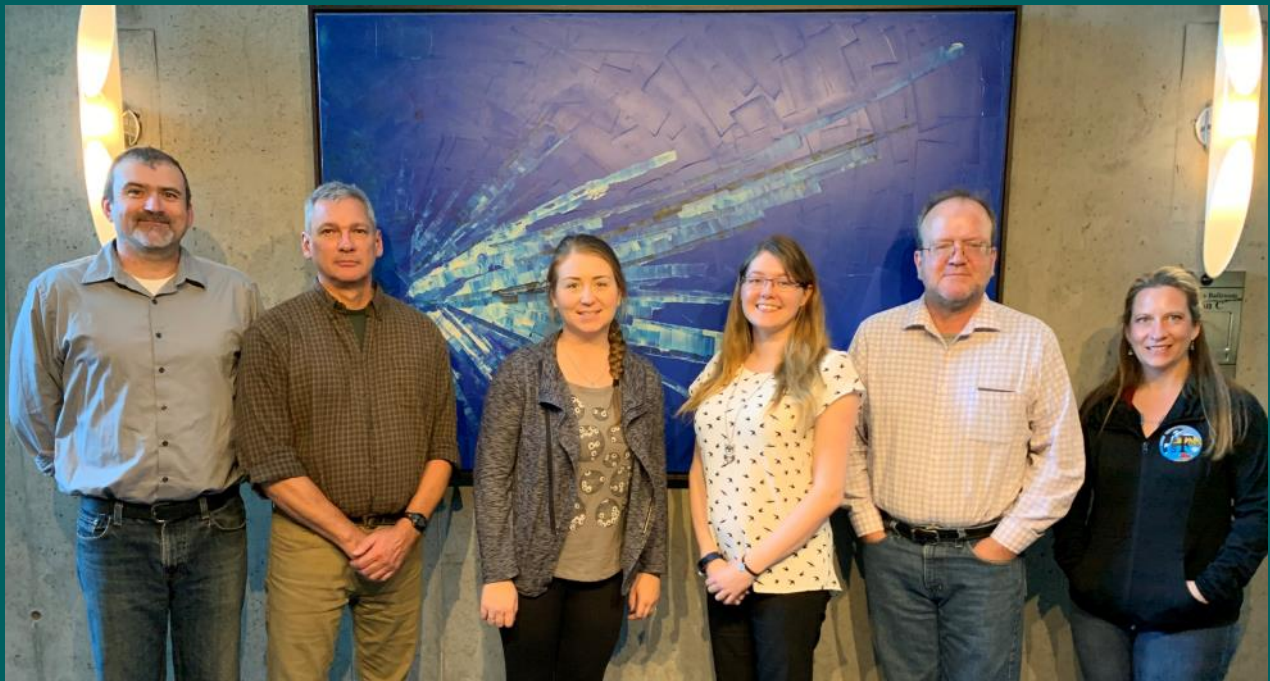
The WA-BC Chapter of the American Fisheries Society, which includes members in Washington State and British Columbia, is an organization composed of professional biologists interested in the scientific conservation and enhancement of fish populations and their environment.

The mission of the Chapter is to:

- 1) advance the conservation and intelligent management of aquatic resources within a context of sound ecological principles,
- 2) gather and disseminate information pertaining to aquatic science and fisheries management, and
- 3) promote the educational and technical aspects of the fisheries profession.

In pursuit of our mission, we will strive to equitably represent the views of members, develop opportunities for effective leadership and conservation, and generate the resources necessary to carry out our programs.

The next WA-BC Chapter Annual General Meeting is currently being planned. Please check our website for future updates!



2019-2020 Executive Committee of WA-BC Chapter

From left to right: Gabriel Temple, Paul Spruell, Caroline Walls, Brittany Jenewein, Alf Haukenes, and Tamara Knudson. Not present: Kirstin Gale and Timothy Taylor.